the oil in the north central Texas region, the northeastern source of the Bend sediments, and the very great trustworthiness of lithologic correlation in regions where faunas change slowly and sediments accumulate rapidly.

The one disappointment felt by the reviewer was due to the lack of explicitness in dealing with the technology of examinations. For novices a careful outline of the things to be sought for in making lithologic subsurface correlations would be helpful.

C. H. B., JR.

Report on Mining Operations in the Province of Quebec, 1919. Province of Quebec, Canada, Bureau of Mines, 1920. Pp. 160.

The phenomenal growth in the mineral industries of Quebec is evidenced by the increase in the value of her annual mineral output from two and a half million dollars in 1900 to nearly twenty-one million dollars in 1919.

While metals contribute to some degree to this output, Quebec's most important resources are non-metallic—asbestos and building-materials dominating.

Asbestos is to be credited with over half of the total mineral output by value in 1919, the mines of Quebec constituting the world's principal source of this mineral. The United States is very directly interested in this Canadian industry because about 89 per cent of the output comes to the United States, mainly in an unmanufactured state, and is there fabricated for use in the United States and for shipment abroad. Some 3 per cent of the Canadian output is exported directly to England and the remainder to various other countries of Europe and to Japan.

The magnesite industry of Quebec, which came into prominence with the cutting off of the German and Austrian imports during the war, declined in 1919 to less than half the 1918 tonnage.

E. S. B.

Deposits of Iron Ore near Stanford, Montana. By L. G. WESTGATE. U.S. Geological Survey, Bull. 715-F, 1920. Pp. 85–92.

This report describes several bodies of low phosphorus-hematite ore in the northern part of the Little Belt Mountains. The deposits are as yet undeveloped. Tonnages at two of the best showings are roughly estimated at one and one and one-third million tons respectively.

The main facts of the occurrence and character of the ore and the associated rocks are as follows:

1. The iron ore occurs in tabular bodies at the contact of the porphyry and the Madison limestone. The ore bodies range in width from 5 to 60 feet, and average about 20 feet.

2. The ore is the result of the replacement of the limestone, as shown by its much more uneven contact surface against the limestone and by the retention here and there in the ore body of the banding of the limestone and of parts of the limestone itself.

3. Where the contact is inclined the hematite is more commonly found where the limestone is the footwall.

4. The ore is a compact gray or reddish-gray hematite. It contains in places enough magnetite to make it react to the magnet. It is not to any large degree limonitic at the surface. At the one point where any considerable depth has been reached (125 feet, on the Snowbird claim) the ore contains a little pyrite and chalcopyrite.

The limestone at the contact with the porphyry is usually altered to a yellowish, finely crystalline marble. No contact silicates were seen except a small amount of wollastonite in the rock taken from the tunnel on the Snowbird claim [pp. 90 and 91].

E. S. B.

Gypsum in 1919. By R. W. STONE. Mineral Resources of the United States, 1919. Part II, pp. 99–113.

The gypsum industry in 1919 showed a slight recovery from the low level of production touched in 1918. The report gives the usual statistical data, the only unusual feature being a discussion by Dr. William Crocker, professor of plant physiology at the University of Chicago, of "Agricultural Gypsum and Its Uses."

Eighty years ago land plaster was one of the most used of fertilizers, and there are indications that it will again come into general use.

There are four main uses of this substance in agriculture: As a source of sulphur for alfalfa, red clover, or other crops of high sulphur requirement, and for combination with ground-rock phosphate as a substitute for acid phosphate; as a preserver of manure; as a soil stimulant; and as an amendment for black alkali [p. 109].

E. S. B.